



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------------|------------------|
| 10/766,875 | 01/30/2004 | Hironori Suzuki | 018677-0121 | 4095 |
| 22428 7590 11/30/2004 | | | | |
| FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007 | | | | |
| | | | EXAMINER HANSEN, COLBY M | |
| | | | ART UNIT 3682 | PAPER NUMBER |

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/766,875

Applicant(s)

SUZUKI ET AL.

Examiner

Colby Hansen

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 4, 13-16, 19-22, 28 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-12, 17, 18 and 23-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01302004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 4, 13-16, 19-22, and 28-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/12/2004.

Applicant's election of Species A5 in the reply filed on 10/12/2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Furthermore, claim 4 has been withdrawn as being specifically related to species A6, a non-elected species.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-8, 17, 18, and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hallerback '030 in view of West '734.

Hallerback '030 discloses a rolling bearing with shield plate (made from a group consisting of metal) comprising an outer ring 1 having an outer ring raceway (fig. 1) and an anchor groove 4 formed on an inner peripheral surface thereof, the anchor groove 4 being circumferentially

provided at an axial end portion separated from the outer ring raceway 1 and having an outside facing side surface (fig. 1), an inner ring 2 having an inner ring raceway formed on an outer peripheral surface thereof, a plurality of rolling members 3 rotatably positioned between the outer ring raceway (fig. 1) and the inner ring raceway (fig. 1), and a shield plate 5 formed in a generally circular ring shape and provided with an inner facing, radial outer portion (fig. 1) and an outer peripheral edge portion 6 anchored in the anchor groove 4 on the inner peripheral surface of the outer ring 1 at the axial end portion of the outer ring 1, the shield plate 5 having an elastic seal member 7 formed of a curable polymer substance (col. 1/lines 43-50 discloses any suitable elastic element which would inherently include a curable polymer substance) with adhesive property in a solid state (as broadly recited all materials have some sort of adhesive property, whether it be easy to adhere to another material or not easy to adhere to another material) and attached circumferentially to the radial outer portion of the shield plate 5, the elastic member 7 being disposed slightly radially inwardly with respect to the outer peripheral edge portion 6 of the shield plate 5, such that the seal member 7 is elastically held between the radial outer portion of the shield plate 5 ($D_{18} > R_6 > R_{18} > R_{21}$) and the outside facing side surface of the anchor groove 4. The anchor groove 4 has a generally circumferential end edge portion (fig. 1) contacting a widthwise central portion of the seal member 7, wherein the seal member 7 is attached at a location satisfying the following condition where the outer diameter of the seal member (top of seal 7) is greater than the inner diameter of the outer ring (part that contacts the seal member) which is greater than the inner diameter of the seal member (bottom of seal member 7) which is greater than the inner diameter of the radially outer portion of the shield plate (the corner of the shield plate 5 just below the bottom of the seal member where it starts to bend out); the side facing side surface of the anchor groove facing the seal member as at least one concavity (fig. 1).—Regarding the limitation set forth that the relationship between n (number of cuts) and Z (number of rolling members) must not be either $n=Z$ or $n=Z$ plus/minus 1 it is

found that such a limitation incorporates all possible number relationships between the two, for if n is equal to Z , then the second relationship is met and if n is equal to Z plus/minus 1, then the first relationship is met, and if n is not equal to Z or Z plus/minus 1, both relationships are met. Furthermore, as Hallerback '030 has not disclosed a specific relationship between the cuts and the rolling elements, it is deemed non-essentially and therefor all possible relationships between the cuts and the rolling elements are taught by Hallerback '030.

However, Hallerback '030 does not explicitly state that the elastic seal member does not extend radially beyond an outer edge of the inside facing radial outer portion of the shield plate and integrally attached to the outer portion of the shield plate.

West '734 discloses an elastic seal member 48, with adhesive property (as broadly recited all materials have some sort of adhesive property, whether it be easy to adhere to another material or not easy to adhere to another material) integrally attached (column 2, lines 50-55) to the radial outer portion of the shield plate 44.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the seal member in Hallerback '030 by integrally attaching it to the shield plate as per the teachings of West '734, since this would have aided in the assembly of the bearing by not allowing the seal member to get misaligned. It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Hallerback such that the elastic member would not extend beyond the shield plate so as to protect against wear to the seal due to radial misalignment caused by mistakes in manufacturing or shock forces to the bearing apparatus.

With regard to claims 5 and 6, these process limitations do not structurally define over Hallerback '030 or West '734.

Furthermore, Hallerback '030 and West '734 discloses the claimed invention except for the elastic member having a viscosity in the range of 8000 plus or minus 2000cPs at 25 degrees

C. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use an elastic material with a viscosity in that range, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended used. *In re Leshin*, 125 USPQ 416.

Furthermore, Hallerback '030 and West '734 disclose every limitation except for the thickness of the seal member is in the range from 0.02mm to 0.5mm, more specifically, 0.04mm to 0.2mm. It has been held that, where the only difference between the prior art and the claims is a recitation of relative dimensions and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art. M.P.E.P. 2144.04(IV)(A). Here, applicant has not demonstrated how this size limitation would perform differently than the prior art. Therefore, this limitation of size does not structurally define over the references.

Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hallerback '030 in view of West '734 as applied to claims 1-3, 5-8, 17-18 and 23-27 above, and further in view of Tomoda (U.S. Patent No. 4,339,565).

Hallerback '030 discloses the claimed invention except for the use of a coating for the rubber having a non-affinity for oil wherein the substance is fluorine.

Tomoda '565 discloses a substrate of material (as broadly recited, rubber is a suitable material for the substrate(col.4/line9)) having an internal composition and outer coating of a substance (the covering of the fluorine-containing epoxy and the fluorinated rubber) having substantially non-affinity for oil (inherent to fluorine), wherein the substance is fluorine.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the fluorinated rubber of Tomoda '565 for the seal member

of Hallerback '030 so as to improve heat resistance, oil resistance, solvent resistance, chemical resistance, as disclosed by Tomoda '565 in col. 1, lines 10-20.

FACSIMILE TRANSMISSION

~~Submission of your response by facsimile transmission is encouraged.~~ Group 3600's facsimile number is (703) 872-9306. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence **not** permitted by facsimile transmission, see M.E.P.. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (M.E.P.. 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 872-9306) on _____

(Date)

Typed or printed name of person signing this certificate:

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.E.P.. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Conclusion

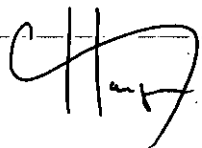
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colby Hansen whose telephone number is (703) 305-1036. The examiner can normally be reached on Monday through Thursday and every other Friday from 7:30 PM to 5:00 PM (EST).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci, can be reached on (703) 308-3668. Any inquiry of a general nature or

relating to the status of this application or proceeding should be directed to the Group
receptionist whose telephone number is (703) 308-2168.

Colby M. Hansen

Patent Examiner

 11/27/04


DAVID A. BUCCI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600